APPENDIX D

REDACTED CLASS I LITERATURE SEARCH

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Class I Literature Search for the Big Stone South to Ellendale 345 kV Transmission Line Project, Dickey County, North Dakota

Prepared for:

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Tables that list site type, name, and Figures 1-4 (Appendix A) contain sensitive information and have been redacted from this version of the report.

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1.0 Introduction

Montana-Dakota Utilities Co. (Montana-Dakota) and Otter Tail Power Company (Otter Tail Power) propose to construct the Big Stone South to Ellendale 345 kilovolt (kV) Project (Project), consisting of between 160 and 170 miles of 345 kV transmission line and a 345 kV substation located near Ellendale, North Dakota (Table 1 and Appendix A, Figure 1). The transmission line will be located between the Ellendale 345 kV Substation in Dickey County, North Dakota, and the Big Stone South Substation, which is part of a separate project, near Big Stone City in Grant County, South Dakota.

Construction of this Project will improve reliability, increase system capacity, and support public policy by enabling renewable energy to be integrated into the system. The North Dakota portion of the Project consists of a 345 kV substation (called the Ellendale 345 kV Substation) located near Ellendale, North Dakota, and approximately 9 to 11 miles of 345 kV transmission line between the Ellendale 345 kV Substation and the North Dakota-South Dakota border (North Dakota Facility). The South Dakota portion of the Project consists of between 150 and 160 miles of 345 kV transmission line between the North Dakota-South Dakota border and the Big Stone South Substation. The Project transects Dickey County in North Dakota and Brown, Day, and Grant counties in South Dakota.

For this Class I Literature Search, the North Dakota Facility right-of-way (North Dakota Facility ROW) is defined as 150-feet-wide. To provide flexibility, a larger option area is under consideration. The North Dakota Facility Option Area (North Dakota Option Area) is defined as 500-feet-wide (Table 1). It is anticipated that the North Dakota Facility ROW will be located within the North Dakota Option Area, although the exact location has yet to be determined. The North Dakota Facility Study Area (North Dakota Study Area) for purposes of this report is defined as one mile on either side of the North Dakota Facility (Table 2).

Table 1. North Dakota Option Area Legal Description

County	Township Name	Township	Range	Sections
Dickey	Van Meter	129N	62W	19-20, 29, 32
	Ellendale	129N	63W	9-10, 15-16, 22-24

Table 2. North Dakota Study Area Legal Description

County	Township Name	Township	Range	Sections
Dickey	Van Meter	129N	62W	16-21, 28-33
	Ellendale	129N	63W	3-5, 8-11, 13-17, 21-28

Federal funding is not anticipated for the Project. However, the North Dakota Facility will require permits to transect lands under federal agency jurisdiction. These agencies include the United States Army Corps of Engineers (USACE), the United States Fish and Wildlife Service (USFWS), and the United States Department of Agriculture-Natural Resource Conservation Service (NRCS). Federal agency jurisdiction is confined to specific areas of the North Dakota Facility ROW owned or held in easement by a federal agency and that require permits to construct and/or maintain the North Dakota Facility. These areas would include USACE Section 10 river and Clean Water Act 404 wetlands, USFWS easements, and NRCS easements. As such, compliance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, is confined to areas that are subject to federal permits. Section 106

requires federal agencies to consider the potential effects of their undertakings on properties listed, or eligible for listing, on the National Register of Historic Places (NRHP).

The survey and reporting requirements for these federal permits will be determined by the responsible federal agency.

In addition, the North Dakota Facility will require a Certificate of Corridor Compatibility and Route Permit from the North Dakota Public Service Commission (PSC), pursuant to North Dakota Century Code Chapter 49-22. The approval process for the Certificate of Corridor Compatibility and Route Permit considers comments from the North Dakota State Historic Preservation Office (SHPO).

In September 2012, information was requested for the initial records search and literature review from the State Historical Society of North Dakota (SHSND). This data request included a macro-corridor, ranging in width from 13 to 22 miles, because the preferred route had not yet been determined. The macro-corridor was identified based on environmental, engineering, economic, and permitting constraints, along with an analysis of available land use/land cover data and existing infrastructure. The macro-corridor was developed with the intention that multiple route options could be considered that pass a limited number of residences, minimize environmental impacts, cross rivers near existing linear infrastructure, and avoid conflicting land uses.

As North Dakota Facility plans progressed, the macro-corridor was refined and evaluated through an environmental desktop review. From April to May 2013, a Class I Literature Search was completed for the North Dakota Option Area and Study Area. This Class I Literature Search was performed under contract with Montana-Dakota and Otter Tail Power. The purpose of the Class I Literature Search is to determine the location of previously recorded historic properties and surveys (archaeological surveys, archaeological sites, and architectural structures) within the North Dakota Study Area, and to assess the potential for the presence of unrecorded archaeological resources.

This report presents the physiography and environmental overview, cultural contexts, and archaeological study units relevant to the North Dakota Study Area, discusses the results of the background research, and makes recommendations for additional archaeological investigations.

2.0 Physiography and Environmental Overview

The North Dakota Study Area crosses the Central Lowlands physiographic province of North Dakota (Bluemle and Biek 2007). Within the Central Lowlands, the North Dakota Study Area transects the Glaciated Plains physiographic region (Bluemle and Biek 2007; USGS 2006) (Appendix A, Figure 2 [redacted]).

2.1 Glaciated Plains

The Glaciated Plains region is characterized by a rolling landscape with numerous temporary and seasonal wetlands formed by glacial till deposited by the Wisconsinan glacier as it slowly retreated. Historically, this region was a mix of tall and shortgrass prairie with natural vegetation consisting of western wheatgrass, big and little bluestem, switchgrass, and indiangrass. The current land use consists almost completely of agriculture (spring wheat and other small grains, sunflowers, and alfalfa). The mean annual precipitation is 17 to 19 inches. The average January high temperature is 16°F, while the average July high is 83°F. The average frost-free season lasts from 95 to 125 days (USGS 2006).

3.0 Cultural Contexts

This section summarizes the five precontact/protohistoric cultural traditions identified in the SHSND-SHPO planning document *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: Paleo-Indian*; *Plains Archaic*; *Plains Woodland*; *Plains Village*; *and Equestrian Nomadic* (Gregg et al. 2008). These cultural traditions are differentiated based on technical innovations (for example, changes in projectile point form or pottery decoration) and changes in resource exploitation and mobility patterns that can be observed in the archaeological record.

This section also presents an overview of North Dakota's Contact, Historical, and Modern period contexts. Within these contexts, historical events and trends important to the development of North Dakota as a state are examined. The following discussion of precontact cultural traditions has been adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component* (Gregg et al. 2008), and *The Handbook of North American Indians* (DeMallie 2001). The following overview of the Contact, Historic, and Modern period contexts in North Dakota has been adapted from *Early History of North Dakota: Essential Outlines of American History* (Lounsberry 1919), *Out Where the West Begins: Early and Romantic History of North Dakota* (Trinka 1920), and the chapter "North Dakota History: Overview and Summary" from *North Dakota Blue Book* (Remele 1998).

This section also includes an overview of Dickey County history, which has been adapted from *A History of Dickey County, North Dakota* (Black 1930), *The State Historical Society of North Dakota State Historic Sites* (SHSND 2013), and the *Soil Survey of Dickey County, North Dakota* (United States Department of Agriculture 1993).

3.1 Precontact

3.1.1 Paleo-Indian

The Paleo-Indian Tradition (9500-5500 BC) begins with what is thought to be the initial peopling of the state following the recession of the Wisconsinan glacier and lasts until the transition of Paleo-Indian lifeways into Plains Archaic lifeways. Boreal climatic conditions dominated the early part of this tradition. Grasslands and spruce-aspen parklands surrounding major rivers and large lakes were common throughout the state and were popular locations for Paleo-Indian settlement. This tradition is characterized by a highly mobile, nomadic settlement pattern and a subsistence strategy based largely on hunting Pleistocene megafauna such as mammoth, camel, and giant bison, and later, smaller species of bison closer in size to modern forms. Wild plant foods were gathered as well, but archaeological evidence regarding this activity is sparse. Large lanceolate and fluted projectile points diagnostic of this tradition are used to mark the various Paleo-Indian cultural complexes represented in North Dakota. These include Clovis, Goshen, Folsom, Hell Gap-Agate Basin, Cody, Parallel Oblique Flaked, Pryor Stemmed, and Caribou Lake. Site types include camps, Knife River flint quarry sites, other lithic procurement areas, lithic workshops, and isolate artifact finds.

3.1.2 Plains Archaic

The Plains Archaic Tradition (5500 BC-400 BC) is characterized by hunting and gathering adaptations to a plains ecosystem with a greater variety of resources available for exploitation. Climatic shifts during this period brought about more arid conditions, broken up by short periods of more mesic conditions. These climatic conditions may have led to declining populations and a reduction in the extent of interaction between population groups. Settlement patterns for this tradition are not as well known as other traditions because comparatively few Archaic period sites have been identified in the state. Projectile point styles became more regionalized, indicating the

beginnings of regional cultural variation. Diversified technologies associated with hunting, trapping, fishing, foraging, wood working, and plant processing are represented in the material culture from Plains Archaic sites. Of particular note, the atlatl weapon is developed during this tradition, and ground stone tools appear in the archaeological record. Side-notched projectile points and chipped stone scrapers, knives, punches, and drills also appear in the Plains Archaic toolkit. Plains Archaic complexes recognized in North Dakota include Logan Creek-Mummy Cave, Oxbow, McKean Lanceolate, Duncan, Hanna, Yonke, and Pelican Lake. Site types include animal kill sites, camps, Knife River flint quarry sites, lithic workshops, and burial sites.

3.1.3 Plains Woodland

The Plains Woodland Tradition (400 BC-AD 1200) is characterized by the emergence of ceramic technology, mound burials, and limited horticulture in addition to the continued subsistence strategies and settlement patterns exhibited in the Plains Archaic Tradition. The climate began to stabilize and resembled the climate that exists today. The development of horticulture and construction of burial mounds indicate a transition to a more sedentary lifestyle in this tradition. Interaction between population groups broadened, and trade networks with other parts of the country expanded. The bow and arrow was developed during this tradition. Smaller side and corner-notched projectile points along with a variety of chipped stone cutting tools, ground stone tools, and ceramic pottery are common in the Plains Woodland toolkit. The Plains Woodland complexes recognized in North Dakota are based largely on ceramic wares and include Sonota/Besant, Laurel, Avonlea, Brainerd, Blackduck, Mortlach, Old Women's, and Sandy Lake. Site types include burial mounds and other burial sites, occupations, camps, quarries and lithic procurement areas, and bison kill sites.

3.1.4 Plains Village

The Plains Village Tradition (AD 1200-ca.1780) is characterized by an intensification of agriculture and the emergence of larger, more complex societies. Subsistence strategies included an equal mixture of cultivating river floodplains for garden crops and hunting game, primarily bison, in the upland grasslands. Corn was the primary crop cultivated during this tradition. Dried corn was stored in subterranean storage pits, creating a dependable surplus of food. This surplus supported semi-permanent earthlodge villages situated on the higher terraces and uplands overlooking river channels and floodplains. The Plains Village cultures in North Dakota were concentrated primarily along the Missouri River Trench and within the James and Sheyenne River basins, although hybrid Woodland/Plains Village cultures existed in other parts of the state. Material culture from this tradition includes distinctly decorated ceramic pottery, triangular chipped-stone side-notched and unnotched projectile points, chipped stone end scrapers, drills and bifaces, bison or elk scapulae hoes and digging tools, an array of bone tools and decorations, mollusk shell beads and ornaments, a variety of ground stone tools, and various smoking pipes. Luxury items include native copper from the Great Lakes, shells from the Gulf or Atlantic coasts, snails from the southeastern United States, steatite from northern Wyoming, obsidian from near Yellowstone Park in Wyoming, dentallium from the Pacific Coast, and catlinite from southwestern Minnesota.

In North Dakota, the Plains Village Tradition is subdivided into the Middle Missouri and Coalescent Traditions, and the Northeastern Plains Village Complex. Site types include occupations (fortified and unfortified earthlodge villages), winter villages, camps (hunting), flint quarries, eagle trapping sites, conical timber lodges, burials, lithic workshops, bison kill sites, and rock art sites.

3.2 Protohistoric/Contact

3.2.1 Equestrian Nomadic

The Equestrian Nomadic period (AD 1780-1880) encompasses both the late Protohistoric and Historic times, following the arrival of European trade goods and the introduction of the horse. The horse replaced the dog as a beast of burden and allowed a more nomadic settlement pattern. Subsistence economies changed as groups were able to travel further from residential bases to hunt bison and other large game. The new Equestrian Nomadic lifeway spread throughout the region and was adopted by different cultural groups, eventually leading to greater interactions among them. Less complex bands came together and formed larger tribes as migration increased and competition for resources grew. An increasing number of European trade goods appear in the material culture of this period. Site types include camps, battle sites, and animal kill sites.

3.2.2 Fur Trade/Contact

One of the first known Euro-American expeditions into North Dakota was by Pierre Gaultier de la Verendrye, a French explorer and fur trader, who in 1738 visited Mandan villages near present day Bismarck. By the 1790s, the Canadian North West Company and Hudson's Bay Company erected trading posts along the Red River of the North and in the northeastern corner of the state. Euro-American interest in this part of the country increased with the United States' purchase of the Louisiana Territory in 1803. The Lewis and Clark expedition was organized to explore and report on this new territory, and in 1804, they passed through North Dakota. During their time in North Dakota, Lewis and Clark visited Mandan, Hidatsa, and Arahami villages along the Missouri River, and wintered in Fort Mandan, which they built 6 miles below the mouth of the Knife River. The following year, the expedition made its way through the rest of North Dakota on its way into present day Montana.

Increasing numbers of explorers and fur tradesmen would reach the area in the following years. This time period is recognized by the establishment, operation, and adaptation of gathering the hides of fur bearing mammals in exchange for other goods and materials. This exchange linked the Northern Plains to a world-wide economic and political system. Increased demand for furs by European societies lead to the establishment of settlements or forts in strategic locations throughout the Northern Plains. These areas of centered interaction allowed furs to be procured in an orderly fashion and transported to markets in Europe as quickly as possible. One of the earliest settlements in North Dakota was a colony set up by white settlers from Winnipeg in 1812 at the confluence of the Pembina River and the Red River of the North near present day Pembina. The Red River Valley was also occupied by the Metis, a group of people of mixed European and Native American ancestry. The Metis were active in the fur trade in the region, and they carried furs and merchandise between Winnipeg and St. Paul, Minnesota, by way of oxcart. By 1859, steamboats were being used to transport goods between the two cities. Known site types include fur trading posts and forts, trails, loading and shipping facilities, trapping, trading, and hunting grounds, camps and camp sites, steamboat docks, stores, dwellings, warehouses, and residences of prominent fur trade participants.

3.3 Historic Period

3.3.1 Military Confrontation

The Military Confrontation time period, defined as between AD 1862 and 1870, is characterized by an increasing United States government presence in the form of a chain of military outposts. An unfulfilled treaty between the federal government and the Dakota led to a violent uprising in

Minnesota in 1862. This in turn led to major military expeditions by the United States government in 1863, 1864, and 1865. Battles at Whitestone Hill and Killdeer Mountain in 1863 and battles in the Badlands in 1864 diminished Dakota resistance. However, strained relations between federal entities and Dakota populations existed well into the 1890s. Known site types include forts, posts, armories, battlefields, trails, roads, bridges, fords, mail stations, cemeteries, villages, camps, camp sites, dumps, defensive work corrals, barns, storage areas, dwellings, and residences.

3.3.2 American Settlement/Statehood

The American Settlement time period is defined as AD 1861 through North Dakota's statehood on November 2, 1889. The settlement of North Dakota was a direct tie to the creation of railroads and railroad lines across the state. In 1862, gold was discovered in present day Montana and Idaho, leading to waves of settlers traveling west across North Dakota. In 1864, the Northern Pacific Railroad Company was granted rights to build a railroad through the territory, and in 1871, an expedition with a military escort was sent to scout and survey potential routes. In 1872, the Northern Pacific was built as far as Bismarck, and by the end of the 1870s, railroad links from the east brought homesteaders, including many Norwegian and German immigrants, into the state. Throughout the 1870s and 1880s, towns and settlements developed in order to serve the homesteaders, frontier citizens, and railroad crews working in the territory.

Around 1879, a population boom occurred that had direct ties to the development of organized and highly mechanized, large bonanza farms. These bonanza farms had a dramatic effect on the landscape. For the first time, large sections of the area were cultivated and farmed. On November 2, 1889, President Benjamin Harrison approved the admission of North Dakota to the United States. The new state was a Republican stronghold, with the state government dealing with issues concerning large amounts of resources and wealth being extracted from the state with no reinvestment. This eventually led to the Democratic Party winning elections and in turn reinvesting wealth and resource back into the state. Known site types include towns, colonies, settlements, reservations, businesses, residences, farms, courthouses, city halls, township halls, government office buildings, office jails, police and sheriff's offices, fire stations, maintenance shops, storage yards, buildings and facilities, dumps, warehouses, roads, highways, streets, alleys, bridges, water and sewer treatment facilities, and homes of prominent local leaders.

3.4 Modern Period

3.4.1 The Great Depression

During the Great Depression (AD 1929-1940), a slowing national economy heavy from debt, low prices for agricultural goods, crop failures, dust storms, and extreme weather resulted in series of farm foreclosures, bank failures, and residence and business abandonment. Known site types include abandoned farms, banks, business buildings, city parks, civic improvements, relief facilities, Works Progress Administration projects, and Civilian Conservation Corps camps and project sites.

3.4.2 Modern Industrial Development

During the Modern Industrial Development time period (1940s-1960s) (Remele 1998), a post-war economy was driving the development of large industrial facilities in order to change raw materials into products for local and national consumption. Large construction projects, such as dam building and reservoirs allowed farms, corporations, and citizens of the state to control their access to water resources throughout the year in a more predictable manner. Discovery of natural resources, such as oil and coal, allowed the development of these industries in the state. Additionally, the beginnings of Cold War stress between the United States and foreign governments generated a perceived need for

strategic placement of military bases. In response to this perceived need, in 1960, two large Air Force bases were built in North Dakota at Grand Forks and Minot. Known site types include Air Force installations, armories, storage areas, dwellings and residences, brick plants, concrete plants, blotting plants, meat packing plants, food processing plants, assembly plants, factories, foundries, saw mills, gristmills, gravel potash and uranium mines, tipples, mines, mine entrances, loading and transportation facilities, storage yards, railroad spurs, office buildings, camps, oil wells, gas wells, petroleum product refineries, tank batteries, pipelines, and pumping stations.

3.5 County History

3.5.1 Dickey County

The first known exploration party to pass through Dickey County was the Nicollet-Fremont party. In the summer of 1839, the party was sent to explore the tributaries of the Upper Mississippi River Basin, traveling from Pierre, South Dakota to the James River, near Aberdeen, South Dakota. From Aberdeen, the group continued north, following the west bank of the James River, and entered what is now Dickey County, North Dakota.

As part of the United States-Dakota conflict, General Henry H. Sibley and General Alfred Sully crossed Dickey County in 1862 and 1863. The two Generals pursued bands of Dakota moving west, outside of Minnesota, into the Dakota Territory. On September 3, 1863, General Sully's troops attacked a camp of Yanktonai, Dakota, Lakota, and Blackfeet. The subsequent battle at Whitestone Hill led to the death and capture of numerous Native American men, women, and children, while casualties on the military side were relatively light.

The next known expedition that transected the county occurred in 1864 and was led by Captain James L. Fisk, who had received permission from the federal government to escort gold seekers to the Rocky Mountains. In July 1864, another government-sponsored party traversed Dickey County. The party, led by Captain L.S. Burton, was sent to determine whether the James River would provide a suitable area for fort development and construction. The party marched north, following the east bank of the James River, reaching the area near the Nicollet-Fremont camp of 1839. As timber resources in the area were limited, it was determined that a fort could not be supported on the James River.

The first attempt to organize what is now Dickey County was initiated by the Minnesota Territory in 1850. At that time, the area was included as part of Wahnatah County. This was one of the nine counties that the Minnesota Territory claimed at the time. Wahnatah County was never organized; however, in 1851, Pembina County was created to include all of eastern North Dakota as well as a portion of South Dakota east of the Missouri River. When Minnesota was admitted into the Union on May 11, 1858, all of eastern Dakota was left without a government.

Following the creation of the Dakota Territory in 1861, portions of what is now Dickey County were included in multiple county boundaries. On March 7, 1881, Dickey County was created, taking 21 townships from LaMoure County, three from Ransom County, and a small strip of land on each side of the 46th parallel that had not been previously included in any county.

At that time, no settlers were living within the county borders, and approximately seven miles of the Chicago Milwaukee & St. Paul Railway traversed the new county. Soon, settlers began claiming land around the railroad, with concentrations near the rail terminus. In the late fall of 1881, four men filed claims on the four quarters known as the "center of Ellendale." This center was created approximately three miles southeast of the rail terminus and consisted of only a few shanties.

By 1882, Dickey County witnessed a great influx of settlers as eastern papers told of homesteading opportunities in the new territory. Towns and settlements were created adjacent to waterways such as the James and Maple rivers and also followed the expansion of the Chicago Milwaukee & St. Paul Railway and the addition of other rail lines. By 1883, multiple stagecoach lines extended out of Ellendale to the northeast connecting to Hudson, to the north connecting to Keystone, and to the west connecting to Fort Yates, Bismarck, and Ashley.

In 1889, the Dakota Territory was divided into two new states: North Dakota and South Dakota. This change did not affect those living in the territories at the time. The early 1890s brought severe drought to the region and many in Dickey County sold their claims and moved on. The county population was 5,573 in 1890 and reached an all-time high of 10,877 in 1930. Due to drought conditions and the Great Depression, the county witnessed a steady population decline. Today the primary economic enterprise in Dickey County is farming. The principal crop consists of spring wheat, although other small grains such as corn, sunflower, millet, hay, and flax are also grown. Livestock is raised primarily in the western quarter of the county in the more undulating landscape. Approximately 73 percent of the county is devoted to cropland or pasture area, and approximately 19 percent is in rangeland.

4.0 North Dakota Archaeological Study Units

SHPO has divided the state into 13 archaeological study units based on the state's major drainage basins. These study units were developed to enable a better analysis of prehistory or history in terms of regional adaptations to geography and environmental conditions (Gregg et al. 2008). The North Dakota Study Area transects the James River archaeological study unit (Appendix A, Figure 3 [redacted]).

4.1 James River

The James River archaeological study unit (JRSU) is centered on the James River, flowing north to south in eastern North Dakota. This study unit falls within the Central Lowlands physiographic province and traverses the Glaciated Plains physiographic region (Bluemle and Biek 2007). The following discussion of the JRSU is adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: James River Study Unit* (Swenson and Bleier 2008).

4.1.1 Landscape

Following the recession of the Wisconsinan glacier, the terrain of this study unit was vegetated by a boreal forest with openings dominated by sagebrush. By the mid-Holocene, the boreal forest had shifted east of the Red River and was replaced by prairie grasslands. This prairie grassland ecosystem has persisted into the present. A variety of landforms are present in the study unit and include uplands, valley wall side slopes, valley wall foot slopes, alluvial fans, river terraces, flood plains, and lake plains. The rolling uplands are characterized by ground moraines, end moraines, and valley trains.

4.1.2 Floral and Faunal Resources

Floral resources historically available in the JRSU include the willow, elm, ash, box elder, cottonwood, and bur oak trees that comprise the gallery forests of the James River and associated drainages, along with edible plants such as prairie turnips, chokecherries, wild plums, currants, raspberries, snowberries, juneberries, and gooseberries. Faunal resources historically available in the JRSU included large and small mammals such as bison, elk, pronghorn antelope, white-tailed deer, beaver, badger, raccoon, muskrat, fox, coyote, wolf, skunk, jack rabbit, cottontail rabbit, mink,

weasel, ground squirrel, and some insectivores; aquatic species such as painted turtles, snapping turtles, bullheads, yellow perch, northern pike, and numerous species of mollusks; and avian species such as geese, ducks, raptors, and song birds. Pleistocene megafauna such as mammoth and camel, were available in the JRSU until their extinction in the early Holocene.

4.1.3 Lithic Resources

Lithic raw material sources available in this unit can be found in both stream gravels and the glacial till and include Tongue River silicified sediment, Swan River chert, chalcedony, quartzite, and occasionally Knife River flint. The glacial till also provided small boulders that were used for securing tipi covers, building cairns, capping caches and burials, and creating game drive alignments, among other purposes. Granite was used to make ground- and pecked stone artifacts. Rocks were also used for stone boiling and sweat bathing.

4.1.4 Site Types

Within the JRSU, common site/feature types include cultural material scatters and mounds. A number of other site/feature types including graves, other rock features, stone circles, and two earthlodge villages are also present within this study unit. The majority of the recorded sites in the JRSU are located on hills, knolls, or bluffs, although a number of sites are located on floodplains, ridges, and upland plains as well. This section presents the common site types associated with each of the major prehistoric/protohistoric cultural traditions identified in North Dakota.

Paleo-Indian Tradition

Sites dating to the Paleo-Indian Tradition are rare in the JRSU. A few scattered surface finds consisting of lithic tools or projectile points have been found throughout the study unit, mostly in the uplands and on valley rims. Only one subsurface Paleo-Indian site has been found within the study unit. This site consisted of a partially excavated mammoth with no associated artifacts located just west of the James River Valley in Stutsman County. Although no artifacts were found, a portion of this site remains intact for future study.

Plains Archaic Tradition

As of 2008, the only site/feature types associated with the Plains Archaic Tradition identified in the JRSU were cultural material scatters, one burial site, and isolated finds of projectile points. Based on studies in other study units, site/feature types associated with the Plains Archaic Tradition likely to be found in the JRSU include hearths, bison jump sites, rock cairns, rock alignments, stone circles, and storage and refuse pits.

Plains Woodland Tradition

Plains Woodland Tradition functional site types identified in the JRSU include mortuary sites, field camps, and residential bases. Most of the mortuary sites are located in mounds in the uplands. The residential bases, special purpose mortuary sites, and temporary campsites should be present near these mound sites in both the floodplain and uplands. Site/feature types associated with the Plains Woodland Tradition identified in the JRSU include cultural material scatters, earthworks, graves, hearths, mounds, rock cairns, and storage and refuse pits. Based on studies in other study units, site/feature types associated with the Plains Woodland Tradition likely to be found in the JRSU include bison jump sites, lithic procurement areas, and stone circles.

Plains Village Tradition

Previously recorded Plains Village residential sites have all been located on floodplain and terrace settings. Mounds attributed to the Plains Village Tradition are mostly situated along the bluffs of the

James River Valley, although some are located on terraces as well. Plains Village site/feature types identified in the JRSU include cultural material scatters, earthlodge villages, earthworks, fortifications, graves, hearths, mounds, pits, and lithic procurement areas.

Equestrian Nomadic Tradition

Tribes likely to have been in the JRSU during early historic times include the Dakota (Yankton and Yanktonai), Cheyenne, Awaxawi Hidatsa, and Assiniboine. The most common sites attributed to the Equestrian Nomadic Tradition are stone circle sites. These sites can be found along ridges or hill crests, often with commanding views of the surrounding country. Previous archaeological investigations indicate that some sites with large numbers of stone circles were used recurrently.

5.0 Literature Search

In September and October 2012, information was requested for the initial Class I Literature Search from the SHSND. This data request included a macro-corridor ranging in width from 13 to 22 miles as the preferred route had not yet been determined. The macro-corridor was identified based on environmental, engineering, economic, and permitting constraints along with an analysis of available land use/land cover data and existing infrastructure. The macro-corridor was developed with the intention that multiple route options could be considered that pass a limited number of residences, minimize environmental impacts, cross rivers near existing linear infrastructure, and avoid conflicting land uses.

On October 19, 2012, data was received from the SHSND in the form of geographic information system (GIS) files. The cultural resources data included GIS shapefiles that document the location of all previous cultural surveys, previously identified archaeological sites, and recorded architectural properties.

As North Dakota Facility plans progressed, the macro-corridor was evaluated through a desktop review, and the preferred route was determined. On December 4, 2012, a file search was completed at the SHPO to gather previously recorded archaeological site forms and previously recorded architectural property forms.

From April to May 2013, a Class I Literature Search was completed for the North Dakota Option Area and Study Area. The purpose of the Class I Literature Search is to determine the location of previously recorded historic properties and surveys (archaeological surveys, archaeological sites, and architectural structures) within the North Dakota Study Area, and to assess the potential for the presence of as yet unrecorded archaeological resources.

Additional background research included online research of the National Park Service's NRHP, online research of historical General Land Office (GLO) plat maps, and a review of the NDSHPO planning document *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component* (Gregg et al. 2008). The online review of the NRHP was completed to identify registered sites and districts located within the North Dakota Study Area. The GLO maps corresponding with the North Dakota Study Area were reviewed to identify any potential historical resources that may be present. The SHPO archaeological planning document was reviewed to obtain information regarding the expected locations of archaeological sites within the various archaeological study units.

5.1 Previous Surveys

A total of four cultural resources investigations have been completed within the North Dakota Study Area (Table 3 and Appendix A, Figure 4 [redacted]). The previous surveys do not transect the

North Dakota Option Area. These reports document surveys for a transmission line, a sewage lagoon expansion, a communications tower, and a rural water development project.

Table 3. Previous Surveys in the North Dakota Study Area

Year	SHPO Number	Report	Authors
1981	3020	Cultural Resources Survey of the Proposed Sewage Lagoon Expansion Site at Ellendale, Dickey County, North Dakota	Fox, S.
1991	5496	A Cultural Resources Inventory of WEB (Phase 7) Construction in Dickey County, North Dakota and South Dakota	Buechler, J.
2005	9309	An Archaeological Survey of a Proposed Communications Tower Site in the Township of Ellendale, Dickey County, North Dakota	Salkin, P.
2011	12310	Class III Archaeological Resource Inventory for a 230 kV Transmission Line from the Merricourt Wind Farm to the Ellendale Substation, Dickey and McIntosh Counties, North Dakota	Eigenberger, D., et al.

5.2 Recorded Archaeological Sites/Site Leads

One previously recorded archaeological site and one previously recorded archaeological site lead have been identified in the North Dakota Study Area (Table 4 and Appendix A, Figure 4 [redacted]). The previously recorded sites/site leads do not transect the North Dakota Option Area. Site 32DI0034 consists of a historic artifact scatter and foundations. Site lead 32DIx0102 consists of an isolated find and includes one tertiary flake and one biface. The previously recorded site and site lead have not been evaluated for NRHP eligibility.

Table 4. Archaeological Sites/Site Leads in the North Dakota Study Area

Site Number	County	Township	Range	Section	Site Type	NRHP Eligibility
32DI0034	Dickey	[redacted]	[redacted]	[redacted]	Historic Artifact Scatter/Farmstead	Unevaluated
32DIx0102	Dickey	[redacted]	[redacted]	[redacted]	Precontact Isolated Find	Unevaluated

Exact location redacted.

5.3 Architectural Properties

No architectural properties have been identified within the North Dakota Study Area.

5.4 NRHP Listed Properties

No NRHP listed properties have been identified within the North Dakota Study Area.

5.5 General Land Office Map Research

Official GLO survey plats corresponding with the North Dakota Study Area were examined to identify areas that may have potential for containing historical era cultural resources. Archaeological sites may be present in locations where historic resources have been documented on the GLO maps.

These maps reveal that by 1882, both townships contained evidence of Euro-American settlement (North Dakota State Water Commission 2013) (Table 5). Most evidence of settlement includes named residences scattered across the landscape. Settlement concentrations were identified west of the Maple River in Township 129N, Range 62W. Additional features identified on the GLOs include agricultural fields and the Chicago Milwaukee & St. Paul Railway. This rail line extends across the entirety of Township 129N, Range 63W, transecting the eastern portion of the township. The rail

extends nearly north-south with a slight northwest-southeast angle. One residence was identified adjacent to the rail in Section 11. No other features were identified in this township.

Table 5. GLO Review

Township	Range	Section(s)	Civil Township	Resource Type
129N	62W	2	Van Meter	Residence of Geo. Perry in the SE 1/4
129N	62W	4	Van Meter	Residence of H. Helferty in the SE 1/4 and the residence of W. Helferty in the SW 1/4
129N	62W	6	Van Meter	Residence of W. Moran in the NE 1/4, the residence of E.R. Harkness in the NW 1/4, the residence of Carrie Hanck in the SE 1/4 and the residence of D.W. Holbrook in the SW 1/4
129N	62W	7	Van Meter	Residence of D. Johnson in the NE 1/4, the residence of L. Osborne in the NW 1/4, the residence of G. Menthorn in the SE 1/4, and the residence of E.N. Leiby in the NW 1/4
129N	62W	9	Van Meter	Residence of B.E. Cook in the NE 1/4, the residence of R. Jackson in the SE 1/4, and the residence of J.C. Hood in the NW 1/4
129N	62W	10	Van Meter	Residence of G.S. Stewart in the NE 1/4, the residence of S.B. Cook in the NW 1/4, the residence of H. Goschkee in the SE 1/4, and the residence of J. Chamberlin in the SW 1/4
129N	62W	11	Van Meter	Residence of H.H. Glenn in the NE 1/4, and the residence of A.W. Glenn in the NW 1/4
129N	62W	15	Van Meter	Residence of F. Snell in the NW 1/4 and the residence of G.H. Spangler and associated agricultural field in the SW 1/4
129N	62W	16	Van Meter	Residence of E.P. Lauback in the SE 1/4
129N	62W	17	Van Meter	Residence of D. Barrister in the NE 1/4, the residence of C. Blackmer in the NW 1/4, the residence of A.H. Cornwell in the SE 1/4, and the residence of J. Lauback in the SW 1/4
129N	62W	19	Van Meter	Residence of Mary Culbertson in the NE 1/4 and the residence of A. Gilbert in the SE 1/4
129N	62W	20	Van Meter	Residence of Jennie Bonnie in the SE 1/4 and the residence of W.S. Gilbert in the SW 1/4
129N	62W	30	Van Meter	Agricultural field in the SE 1/4
129N	62W	31	Van Meter	Residence of O.H. Bonker and an agricultural field in the NE 1/4, the residence of W.P. Brown in the NW 1/4, the residence of E. Hollenbeck in the SE 1/4, and the residence of A.J. Cross in the SW 1/4
129N	62W	32	Van Meter	Residence of E. Leighton in the NE 1/4, the residence of F. Bonker in the NW 1/4, and the residence of G.W. Gross in the SW 1/4
129N	63W	2, 11, 13-14, 23-25, and 36	Ellendale	The Chicago Milwaukee & St. Paul Railway extends N-S at a slight angle
129N	63W	11	Ellendale	Residence of Francis M. Dann in the SE 1/4

6.0 Archaeological Site Distribution

6.1 Precontact/Protohistoric Sites/Site Leads

One previously recorded precontact site lead has been identified within the North Dakota Study Area. Site lead 32DIx0102 consists of an isolated find and includes one lithic flake and one biface. The site lead is located within a cultivated field on the top of an upland plain, approximately 300 meters southwest of an intermittent pond. This site lead has not been associated with any cultural/temporal affiliation.

Although the previously recorded precontact site lead has not been associated with any cultural/temporal affiliation, information obtained from the JRSU (Swenson and Bleier 2008) of *The North Dakota Comprehensive Plan for Historic Preservation* indicates there is potential for encountering sites associated with a broad range of cultural traditions. Common site/feature types within the JRSU include cultural material scatters and mounds. A number of other site/feature types including graves, other rock features, stone circles, and earthlodge villages are also present within this study unit. The majority of the recorded sites in the JRSU are located on hills, knolls, or bluffs, although a number of sites are located on floodplains, ridges, and upland plains as well.

Sites dating to the Paleo-Indian Tradition in the North Dakota Study Area may be encountered in upland areas where the land surface has been deflated or has experienced minimal deposition. Plains Archaic sites may be encountered in upland settings that have had minimal soil deposition since the Early Holocene. Plains Archaic sites may also be located along minor drainages in the area. Plains Woodlands sites may be found along the former shorelines of the larger lakes in the region. The most common sites attributed to the Equestrian Nomadic Tradition are stone circle sites. These sites can be found along ridges or hill crests, often with commanding views of the surrounding country.

The potential for encountering precontact archaeological sites in those portions of the North Dakota Study Area that have not been previously surveyed is highest in uncultivated areas in upland settings on prominent rises and near water sources within the rolling glaciated landscape. The potential to encounter precontact sites is lower in areas of intensive cultivation, as agricultural activities have likely destroyed or severely disturbed archaeological sites that may have existed here.

6.2 Historical Sites/Site Leads

One previously recorded historical site has been identified within the North Dakota Study Area. Site 32DI0034 consists of a historic artifact scatter and foundations. The artifact scatter was identified within a cultivated field and the foundation was noted at the edge of the field.

Additional historical period sites/site leads associated with former and existing farmsteads are likely to be found scattered throughout the countryside. Other historical period sites/site leads are expected to be found in greater densities near former and current communities. There is also high potential for encountering intact historical period archaeological sites in the areas that have not been cultivated within and surrounding existing and former farmsteads, as well as in uncultivated areas where historical maps reveal the presence of structures or other features.

6.3 Architectural Properties

No previously recorded architectural properties have been identified within the North Dakota Study Area. Architectural properties are likely to be found scattered throughout the countryside. Properties are expected to be found in greater densities near former and current communities.

7.0 Conclusions and Recommendations

One previously recorded precontact isolated find (32DIx0102) and one historic artifact scatter with associated depressions (32DI0034) were identified within the North Dakota Study Area. Neither site transects the North Dakota Option Area.

The potential for encountering precontact archaeological sites is highest in uncultivated areas in upland settings on prominent rises and near water sources within the rolling glaciated landscape. Additional historical period sites/site leads are likely to be found near former and current communities, in areas that have not been cultivated within and surrounding existing and former farmsteads, and in uncultivated areas where historical maps reveal the presence of structures or other features. Additional architectural properties are likely to be found scattered throughout the countryside and found in greater densities near former and current communities.

As part of North Dakota Facility planning, a Class III survey will be conducted in accordance with the survey principles to direct the identification of cultural resources that may be situated within the North Dakota Facility ROW or may be vulnerable to the visual effects of Project construction and operation. This Class III survey focuses on locating properties that may qualify for listing on the NRHP. The Class III survey approach includes a component focused on locating traditional cultural properties important for their associations with historic events or cultural beliefs and their contributions to the continuation of traditional communities' sense of identity.

8.0 References

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Appendix A
Figures

Figures containing sensitive material have been redacted.